

**ABSTRACT**

---

5 The invention relates to the probehead of nuclear magnetic resonance spectrometer comprising a frame, a radio frequency coil attached thereto and a rotor located inside the coil containing the examined sample, supported by bearings and provided with turbines at both ends, a source of compressed gas, an executive unit and a control unit. The innovative step involves using different turbines that make the rotor rotate in the same or in opposite directions and providing the executive unit with at least two compressed gas  
10 channels for rotor velocity control for each turbine, whereas the coil is connected to the inner surface of the frame with at least two, preferably four sheets of thin non-conductive and non-magnetic material. The rotation velocity of the probehead rotor can be controlled and the rotation direction reversed thereby obtaining additional information on the examined sample during the measuring process.